



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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January 29, 2010

Ms. Pam Gorman
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SUBJ: EPA Review and Comments on
Draft Site-Wide Environmental Impact Statement (DEIS)
Y-12 National Security Complex (DOE/EIS-0387) Project,
To Support the Stockpile Stewardship Program and to
Meet the Mission Assigned to Y-12, Oak Ridge, Tennessee
CEQ Number 20090368

Dear Ms. Gorman:

The U.S. Environmental Protection Agency (EPA), pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act, reviewed the subject DEIS for the Y-12 National Security Complex. The purpose of this letter is to provide EPA's NEPA review comments regarding the proposed project.

This DEIS evaluates alternatives for proposed new actions and changes subsequent to the 2002 Y-12 EIS ROD. The alternatives support modernization of the Y-12 facility, which began construction during World War II, with the majority of the floor space constructed before 1950. The DEIS evaluated five alternatives: No action; Uranium Processing Facility (UPF); Upgrade-in-Place; Capability-sized UPF; and no net production/capability-sized UPF.

The Capability-sized UPF (Alternative 4) is the DOE's preferred alternative. This alternative will maintain a basic manufacturing capability to conduct surveillance and to produce and dismantle secondaries (nuclear weapons components) and cases (which contain secondaries and other components). It would also provide for laboratory and experimental capabilities to support the stockpile, including uranium work for other National Nuclear Security Administration (NNSA) and non-NNSA customers.

The Complex Command Center (CCC) is also part of this alternative and the other action alternatives. The CCC would consist of a new facility for housing equipment and personnel including plant management, Fire Department, and the Emergency Operations Center (EOC).

Construction of the Capability-sized UPF and CCC would require approximately 39 acres; this would occur on previously developed industrialized land at the Oak Ridge facility, including a parking lot. Land uses at Y-12 would remain compatible with surrounding areas and with the existing land use plan.

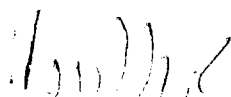
The DEIS states that radiation from normal operations would be below regulatory standards, with no statistically significant impact on the health and safety of workers and the public. Wastes generated from the facility would include liquid and solid low-level radioactive wastes (LLW), mixed LLW, hazardous and nonhazardous wastes.

There are inherent environmental concerns regarding storage, transportation and disposal of hazardous waste and radioactive wastes, and the DEIS notes the need for continuing radioactive and hazardous materials and waste management, environmental monitoring to prevent ecological impacts, emergency preparedness, and radiological monitoring to ensure safety for workers and the public. Long-term onsite storage and disposition of wastes will need to be addressed as the project progresses.

Based on EPA's review of the preferred alternative in this DEIS, the project received a rating of "EC-2," meaning that environmental concerns exist regarding aspects of the proposed project and some clarifying information is requested for the Final EIS (FEIS). (See enclosed *Summary Of Rating Definitions And Follow Up Action*.) The EC-2 rating is based on the selection of the Capability-sized UPF Alternative. However, if a different alternative is ultimately pursued that would result in increased impacts, then additional NEPA evaluation could be expected by EPA.

We appreciate the opportunity to provide these comments. If you have questions, please coordinate them with Ramona McConney (404/562-9615).

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosures: EPA review comments
Summary of Rating Definitions and Follow up Action

EPA Review and Comments on
Draft Site-Wide Environmental Impact Statement (DEIS)
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General

The proposed action will require continuing management of radioactive and hazardous materials and waste, environmental monitoring to prevent ecological impacts, emergency preparedness, and radiological monitoring to ensure safety for workers and the public. There are inherent environmental and worker safety concerns regarding storage, transportation and disposal of hazardous waste and radioactive wastes. Long-term onsite storage and disposition of wastes is a concern that will need to be addressed as the project progresses.

Purpose and Need

The DEIS describes the purpose and need for the action as modernizing the Y-12 facility to increase its cost-effectiveness and to supply future stockpile needs. The DEIS states that the majority of the existing floor space was constructed before 1950. Worker safety, protection, environmental and security concerns were cited, in addition to the need for increased flexibility and use of advanced technologies, while reducing costs and improving operating efficiencies.

Air Emissions

The DEIS states that all radiation doses from normal operations would be below regulatory standards. Consolidation and modernization of the facilities is expected to reduce accident risks. Ongoing radiological monitoring will be required at Y-12.

Water Resources

Water supply for all the alternatives would come from the Clinch River, with no plans for withdrawal from groundwater. The site is expected to increase water usage during construction, with operational water use being approximately 1.2 billion gallons per year under the preferred alternative. Evaluation of potential water withdrawal impacts to the Clinch River during droughts should be evaluated in the FEIS.

Groundwater contamination from past activities onsite requires ongoing monitoring. The preferred alternative is not expected to impact groundwater quality.

NPDES discharges from the Y-12 facility require ongoing monitoring. Regular monitoring and storm water characterization is required under the NPDES Permit. The Final EIS (FEIS) should include updated information regarding NPDES monitoring.

Alternatives

The DEIS Summary document, page S-28, refers to Alternative 2 as the proposed action. Per our communication with the DOE, we understand that this statement is a misprint and that Alternative 4 is the DOE's preferred alternative/proposed action.

Ecological Impacts

The DEIS discusses the Agency for Toxic Substances and Disease Registry (ATSDR) fish consumption recommendation for the Clinch River, EFPC and Poplar Creek, based on the level of PCBs found in several local fish species, and associated with past Oak Ridge Reservation activities. The DEIS states that impacts from the new facilities to ecological resources are not anticipated, because the new facilities will be sited on previously developed land that does not contain habitats to support a biologically diverse species mix.

Waste Management

Under all the alternatives, Y-12 would continue to manage low-level radioactive waste (LLW), mixed LLW, polychlorinated biphenyl (PCB), hazardous wastes, and nonhazardous wastes. Three land disposal facilities are currently in operation at Y-12, and two more have been permitted and constructed. Hazardous waste sites at Y-12 are regulated under RCRA and CERCLA.

Environmental Justice (EJ)

Consistent with Executive Order 12898, potential EJ impacts were evaluated in this DEIS. The purpose of an EJ survey is to ensure equitable environmental protection regardless of the demographics, so that no segment of the population bears a disproportionate share of the consequences of environmental pollution attributable to a proposed project. The DEIS concludes that the project's short-term socioeconomic impacts would be positive, and that the project would not result in any disproportionately high and adverse effects to EJ populations.

Cultural Resources

The DEIS states that the Y-12 site includes a proposed National Register Historic District, consisting of buildings associated with the Manhattan Project, that are eligible for listing in the National Register of Historic Places. Preservation of these cultural resources is planned. Coordination with the SHPO should be ongoing, and documented as the project progresses. The DEIS states that the evaluation and cultural resource recovery would be guided by plans and protocols approved by the SHPO in consultation with Native American tribes. The FEIS should include updated information regarding these coordination activities.

If suspected cultural artifacts are encountered during the construction process for the proposed project, all construction activities should cease and the situation should be addressed in consultation with the SHPO.

Transportation

Transportation of radioactive materials and wastes is a concern. The preferred alternative would involve less radiological transportation impacts in comparison with the other alternatives. In addition, because of reduced production, less shipping of radioactive materials would take place and Y-12 would generate less radioactive wastes.

Threatened and Endangered Species

No federally-listed nor state-listed threatened or endangered species are known to be at the Y-12 site. EPA defers to the FWS regarding endangered species assessments, and encourages the DOE to continue coordination with the FWS as appropriate.

Construction Impacts

The DEIS notes that construction activities would result in temporary traffic and noise increases at the Y-12 site. Construction impacts related to exhaust emissions from construction vehicles, equipment, and fugitive dust are disclosed in the document. We suggest that DOE consider the use of diesel retrofit technologies, such as diesel oxidation catalysts, to reduce the air quality impacts of diesel-powered equipment during the construction phase. The FEIS should clarify the expected timeline of construction.

Diesel Exhaust

NIOSH has determined that diesel exhaust is a potential human carcinogen, based on a combination of chemical, genotoxicity, and carcinogenicity data. In addition, acute exposures to diesel exhaust have been linked to health problems such as eye and nose irritation, headaches, nausea, and asthma.

Although every construction site is unique, common actions can reduce exposure to diesel exhaust. EPA recommends that the following actions be considered for construction and operating equipment:

- Using low-sulfur diesel fuel (less than 0.05% sulfur).
- Retrofit engines with an exhaust filtration device to capture DPM before it enters the workplace.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, thereby reducing the fume concentration to which personnel are exposed.
- A catalytic converter reduces carbon monoxide, aldehydes, and hydrocarbons in diesel fumes. These devices must be used with low sulfur fuels.

- Ventilate wherever diesel equipment operates indoors. Roof vents, open doors and windows, roof fans, or other mechanical systems help move fresh air through work areas. As buildings under construction are gradually enclosed, remember that fumes from diesel equipment operating indoors can build up to dangerous levels without adequate ventilation.
- Attach a hose to the tailpipe of a diesel vehicle running indoors and exhaust the fumes outside, where they cannot reenter the workplace. Inspect hoses regularly for defects and damage.
- Use enclosed, climate-controlled cabs pressurized and equipped with high efficiency particulate air (HEPA) filters to reduce operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any air coming in is filtered first.
- Regular maintenance of diesel engines is essential to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance. For example, blue/black smoke indicates that an engine requires servicing or tuning.
- Work practices and training can help reduce exposure. For example, measures such as turning off engines when vehicles are stopped for more than a few minutes; training diesel-equipment operators to perform routine inspection and maintenance of filtration devices.
- When purchasing a new vehicle, ensure that it is equipped with the most advanced emission control systems available.
- With older vehicles, use electric starting aids such as block heaters to warm the engine, avoid difficulty starting, and thereby reduce diesel emissions.
- Respirators are only an interim measure to control exposure to diesel emissions. In most cases an N95 respirator is adequate. Respirators are for interim use only, until primary controls such as ventilation can be implemented. Workers must be trained and fit-tested before they wear respirators. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a National Institute of Occupational Safety and Health (NIOSH) approval number. Never use paper masks or surgical masks without NIOSH approval numbers.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION*

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS state, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate

The EPA believes the DEIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The DEIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the DEIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the DEIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the DEIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the DEIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised DEIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment